

spathe make it liable to be carried by animals and thus the contained seed is dispersed. Usually only one capsule matures in each spathe. Of 28 fruiting spathes 23 contained only one capsule, and of the other five that contained two capsules, only two had both capsules with all three seeds.

The interval between the opening of the flower and the dehiscence of the capsule appears to depend on temperature; in November and December it varied between 29 and 34 days, and in March it was from 22 to 25 days.

The seeds are broadly ovoid with 2 somewhat flattened adjacent sides, surface dull dark grey covered with minute white grains. There is a brownish scar along the edge between the flattened sides (hilum). A brownish or grey blistering ring almost encircles the seed, and between the two ends of this ring there is a small crater-like depression with a central point (micropyle).

Forms and Occurrence.

This plant grows between rocks from a little above sea-level to about 5,000 ft., under the shade of shrubs or trees in the hotter areas, in open places at higher elevations. There are a number of local forms differing chiefly in habit and leaf shape, but all have similar flowers, spathes and capsules. All forms seen by the writer have mauve petals and not blue as stated in Clarke's Monograph, F.B.I. and F.M.P.

The form found at Vandalur (Chingleput District, 100-200 ft.) has slender trailing stems and broad leaves (up to 10.5 x 2.8 cms. but usually smaller). The Gingee form is similar but more robust and has the outer surface of the deciduous valve of the capsule tubercled and the spathe almost glabrous. A similar plant but with hairy spathes occurs on the Sigur Ghat (Nilgiris) at 4,500 ft. One form found in the Billigirirangan Hills has long narrow leaves (11 x 1.6 cms.) and a trailing habit. A second is like the Gingee form but still more robust (leaves 15 x 4.3 cms. spathes 2.3 cms. across). A third form found on these hills is more or less erect and has broad but acuminate leaves and spathe with acuminate outer angle. A similar plant occurs on the Gudalur Ghat, Nilgiris, and at 5,000 ft. on the Shevaroys. The narrow-leaved form from the Billigirirangan Hills and the broad-leaved Vandalur form when grown under identical conditions at Tambaram for 2 years remained distinct, showing that the differences are not due simply to environment.

This plant roots readily at the nodes if they are in contact with moist earth. Root buds are present at other nodes but they do not develop. The lowest internodes of the stems thicken to small top-shaped bodies which together form a clump. These bodies contain much starch and function as corms enabling the plant to survive the dry season. From these stem-bases numerous slender fleshy roots emerge. They are about 3 mm. across and up to 5 cms. long and contain a good deal of starch in a layer round the centre. The outer surface is covered with a dark brown felt consisting of numerous dried root hairs.

A BIRD PHOTOGRAPHER'S MUSINGS FROM KASHMIR.

BY

LT.-COL. B.T. PHILLIPS.

(With 8 plates)

Soon after gaining a little confidence in my newly invented gadgets for 'distant release' bird photography, and pleased at finding they were instrumental in producing unposed and natural results of bird life, I decided to go further afield and spend my two months' leave in Kashmir. I was lucky having June and July at my disposal, though an earlier date might have been more favourable for the purpose. Within a day or so of my arrival in Srinagar I was lucky to find a bird shikari who had been recommend-

ed to me as good; with all his shortcomings, a grand old red-beard, Habiba of Shalibug—an expert at birds in and around the lakes and marshes, and a willing henchman to boot.

In spite of the good recommendations received, the usual ceremony of at least pretending to wade through the wad of 'chits' (testimonials), handed you with pride in true 'die-hard' '*Dastur Hai*' (customary) fashion, had to be respected. Habiba was taken on for the period of my stay.

With a very hazy knowledge of the birds that might be met with, and with visions of fresh fields to conquer, it was pleasing to find at one's disposal a tested guide. The first outing was arranged—a run out to the River Sind at a point only 20 miles from Srinagar. The objective was a photograph of a Common Sandpiper which had a nest with a freshly completed clutch of eggs. A start by car was made early next morning. The drive for the first five miles along the Ganderbal Road, through the crowded city and a network of congested villages, is a corrective to ideas culled of novels, telling of the romance of the East. From this point onwards Nature asserts itself. The country opens out with a panorama showing to the west, Anchar Lake, a broad sheet of water alongside the road, overshadowed in the distance by the snowy Pir Panjal Range; to the east, a broad valley of arable and pasture land gradually rising to a lofty ridge of mountains.

Those ubiquitous townfolk, the crows, the kites, mynas, and sparrows, though still to be seen, do not intrude with such unfailing familiarity now that the open country is reached, yet there is no diminution in bird life. The avian world appears to be just as busy and affords great variety both in species and vivid colourings. The beloved English Swallow is present and will be seen flying with speed and grace in these open spaces, twittering as it hawks insects over the paddy fields or rests on the telegraph wires by the road.

From a neighbouring post a vision in Oxford and Cambridge blue swoops down to the ground to pick up a cricket or grasshopper and return to its post, or flashing in the sun, it launches itself with harsh, grating screams in fantastic gyrations to display its beauty to the mate of his choice. This is the Kashmir Roller.

Many others will attract attention but as my main object was to try and get series of photographs of the Sandpiper, still some fifteen miles distant, I tried to keep to the task in hand, but failed. No sooner was the car in motion than I heard fantastic cries of a 'Did-he-do-it' uttered repeatedly, and looking across the fields in that direction saw a bird apparently fiercely attacking a ryot who was crossing some fallow land.

The Red-wattled Lapwing *Lobivanellus indicus*.

This Lapwing, a bird common round Cantonment areas in the Plains, was known to me, and therefore this persistent behaviour aroused my suspicions. The car was once again brought to a standstill to enable me to watch more closely through binoculars. The birds in view alighted apart, making it difficult to watch both



The Red-wattled Lapwing.



The Kashmir Skylark.



The White-breasted Kingfisher.

of them. Soon it became obvious that one was feeding owing to its bearing,—upright stance, and occasional, typical short spurts to capture stray insects.

My attention was quickly centred on the other bird. It was carefully moving across the field in a crouching attitude and with gliding gait; it must have covered twenty yards or so in this manner before settling down. Five minutes passed, the bird was still sitting. Had a nest been found? Do not let excitement at discovery set one into wild rush for the site. Much caution is necessary. The quarry is wide awake and though the size of a partridge and strikingly coloured, the pattern of the plumage harmonizes well with the surroundings. Slipping away from the nest, while one is still in the distance, it detracts attention from the all-important focal point—the nest, there is nothing to see but a jumble of ploughed land, or an equally confusing stretch of grass. The nest itself does not help one in the search, it is a mere scrape in the ground encircled with small stones or pellets of clay to suit the surroundings, and the eggs, blotched and streaked in black also closely match the site and nesting materials chosen. The ground colour of the eggs may vary with the colours of the soil; it is a stone colour in boulder-strewn areas, a creamy buff in clay and, I have read, even a reddish buff on red lime-stone.

The nest was found and it contained four pear-shaped eggs large for the size of the bird. This caused the first interruption. The camera and apparatus had to be set up.

The birds did not appear to mind the camouflaged 'set up', in fact, I was scarcely given time to reach the switch before the bird would settle down, in spite of the pandemonium created during their feigned attacks on me at each visit to the camera. An obstacle commonly met with in all cases where birds build on flat featureless ground is the difficulty of visualising the pre-focused area. Many good action pictures are thus ruined as the subject is found to be out of focus. Before leaving for home that evening it looked as though further interruptions in the original plan for the day's outing were in the offing. A Skylark, having completed its exuberant song in the heavens, dropped down into the pasture and not far from the sitting Lapwing, and a band of gaudy European Bee-eaters seemed to be attached to a certain reach of a fairly deep-sided nullah, also in view.

The Kashmir Skylark. *Alauda gulgula guttata.*

An early arrival in the area next morning brought back pleasant memories of pastures green and the English South Downs. There were several skylarks hovering in the heavens giving vent to their spirited and joyful song. Now one, now another would drop like a stone with closed wings earthwards, falling lower and lower until it finally settled. Being a bird with inconspicuous striated plumage, no larger than a sparrow it is very difficult to see when on the ground owing to its crouching gait. After two or three attempts at flushing the female bird in the areas indicated by recently grounded males. I was about to resort to the school-boy trick of trailing over the surface of the field a cord, some

twenty yards in length, held at the extremities by my shikari and myself, when a lark sprang up from under my feet and fluttered away. A careful search revealed the nest; a little cup on the ground, lined with fine grass, well screened from view, under a low spreading creeper-like growth. It contained four eggs, their white ground almost entirely concealed by fine brown spots.

The camera was set up and, after much searching, a vantage point gained from which to view the approaches to the nest, but had it not been for a red poppy placed to mark the site, its exact position would have been hard to pick up. Quite a half hour passed without any sign of the bird in this matted area, so an attempt was made to improve the look of the camouflaged camera. To my surprise the sitting bird flew away from the nest! Similarly, on two separate occasions the bird was flushed off the nest without having given any indication of its approach. It would seem that its 'obliterative' plumage, its crouching walk, its squatting was too much for my watchfulness, and so, after a vain three hours of failure, I flattened down a 9-inch wide drive around the nesting site. This ruse succeeded. I was able to snap the bird often on its approaches to the nest, its markings standing out well against the sandy background.

In my ignorance I thought, I had pictures of the Crested Lark, as occasionally an untidy moppish crest became visible. The Crested Lark is easily distinguished by the erect tuft of pointed feathers on the crown. It does not breed in the Vale but takes up its summer quarters on the higher mountain ranges of Ladakh and Central Asia.

The European Bee-eater. *Merops apiaster.*

The tell-tale burrows in the banks of the nearby sandy nullah gave sufficient grounds to place the photography of this bird next on the list.

May and June are two nice sunny months in the Vale and thus, day in and day out, no qualms as regards brilliant morning lighting need be anticipated, but a banking up of heavy thunder clouds may however mar an afternoon session. It was a delight next morning to see this most colourful and ornamental bird in brilliant sunshine at close quarters.

Being gregarious by nature and nesting in colonies, a flock was concentrated in this area. The birds showing preference for being more on the wing than perched, provided an excellent view of their graceful, easy and undulating flight—a few rapid wing beats alternating with a sail through the air; a pleasant whistling trill is uttered at intervals.

The bird is slenderly built and larger than a bulbul. Its brilliant yellow throat, graded blue-green under plumage, chestnut crown and mantle show off to advantage as it manoeuvres with elegant, wide wheeling sweeps. There are several nesting colonies dotted about the Vale in suitable localities, where the soil is firm but sandy. Some choose banks of nullahs, others colonise hillocks and yet others prefer to excavate their tunnels, even on level ground.

During two successive summers a pair chose a bunker on the

busy Srinagar Golf Course, and undeterred by the bellowing sounds of annoyance from golfers, successfully brought up their families. Apart from such disturbance it was thought advisable to divert caddy activity by having all caddies told to warn users of this well placed bunker that a big snake had been seen entering the hole.

The nesting tunnels, about three inches in diameter, are driven deep into the earth. For interest I had one dug out after the young had flown, and found a network of other tunnels, criss-crossing the line before the nesting chamber was reached.

The whole area appeared to form an underworld, judging by the miscellaneous collection of frogs, lizards, and beetles. I have seen the spherical white eggs and am told six from the usual full clutch in Kashmir.

My subjects for the day were building and so busy tunnelling that they afforded little chance of getting good pictures with the camera focused on the nesting hole. They scarcely paused at the entrance on arrival; though some would settle on a bare twig sticking out of a low bust on the bank before making for the tunnel. The camera site was chosen, but the setting up of the apparatus about 12 ft. away made the birds choose other convenient twigs further off. I found, times out of number, that patience and a little thought will overcome most bird problems. Allowing time enough for the birds to get used to the camera, a clod of earth was placed to block up each of four separate new burrows. The idea worked like magic. The birds presumably dismayed by this manoeuvre had their attention diverted from the camera. Seven of them sat together on my chosen twig. Had the electric release worked I might have got a picture of them all; however there were many snapshots taken of single birds, and on three occasions a pair on the same twig. Needless to say the clods were removed on the completion of the photography and the birds were busy at their work before I quitted the scene. It may be mentioned that a dapper little male Indian Bush Chat, in his neat black and white suiting, and a rich chestnut vest, also used this perch during the day and allowed himself to be successfully photographed on three occasions. A careful search revealed its nest, which contained four eggs, including a cuckoo egg, which was duly destroyed.

The tale from here onwards continues to produce many attractions, to upset my original plan, but as the Sandpiper's eggs were fresh, a few days' postponement appeared permissible. Though the small area just worked had been prolific in subjects for the camera, yet it proved to be only a taste of what was to come in this bird paradise. It was not a mile beyond this spot that the road passed over a narrow tortuous nullah, about 25 ft. wide at ground level but shelving steeply to a tiny stream, another 25 ft. lower down. The sharp twittering cries from a disturbed Pied Kingfisher, and the exit of a Kashmir Roller from the depths of the nullah, called for further investigation.

The precipitous side of the nullah was found to be honeycombed with Pied Kingfisher burrows, old and new. Those in use were zealously guarded by the seven pairs in residence to prevent

rude gate-crashings by pompous and pugnacious Mynas. Ubiquitous House Sparrows, always so ready to usurp anything if permitted to do so, and finally by timid Starlings.

Two pairs of Kashmir Rollers with burrows in the same banks, also swooped down from their vantage points on a tree or telegraph wire, to keep order in this circumscribed aviary. The few willow trees thriving in the cutting gave asylum for the nests of a pair of White-cheeked bultul, and the Rufous-backed Shrikes.

There were even two pairs of the Central Asian Kingfishers that had driven their tunnels into the bank, not more than a foot or two above the stream. Finally from this very road bridge, a pair of Hoopoes could be seen busy feeding their young, sheltered under the roots of a lofty Chenar.

To give some idea of the congestion in this area, from the 'hide' I had set up half way down the bank, I was able to take close-up pictures of seven different species by simply having to swing round the camera on its stand. Three days sufficed to complete these series, the first being employed in accustoming the birds to get used to the 'hide'.

I now propose to describe the birds using the nullah, omitting descriptions of garden and house birds, as these will be described in a subsequent chapter.

The Pied Kingfisher. *Ceryle rudis leucomelanura.*

This pied bird is a little larger than a myna with sexes alike in the main, the only striking difference to be noticed in the field shows when the birds are viewed frontally. The male has the two black gorgets across the breast, the broader one above; the female sports only one which is incomplete being interrupted by quite an inch of white breast feathering.

These birds are numerous and resident in the Vale, and I am of opinion that their numbers remain constant throughout the year. There are many nesting colonies in the vicinity of the Lakes each used by not more than about a dozen couples. Most of these localities appear to have been used by these birds over a period of years. The bank faces are riddled by their tunnellings, and it is evident that the burrows are used as shelters during the winter months, as, nearing sunset many birds congregate in the area and have been seen entering the holes. One unusual colony is situated at a distance of over two miles from the nearest water. The eggs, glossy white and spherical in shape, are said to number six to a full clutch.

They are noisy birds when courting, and being 'hale fellow well met', are delighted when a passing friend drops into the community. Pandemonium then reigns, while with short black crests raised, wings quivering, tails jerking up and down, everyone greets the newcomer with excited chirrupings.

When passing along one of the many waterways, the wayfarer's attention must be attracted either by their pleasant cries, or by their hoverings high over the surface, awaiting the propitious moment to drop like a bolt into the water and seize a silvery fish. Should there be a chance of failure, the bird will pull itself out of a nose dive in mid-air and continue its flight on an even keel



The Common Central Asian Kingfisher.



The Indian Pied Kingfisher.



The Kashmir Roller.

until another shoal is sighted. It will then rise steeply and on hovering wings remain stationary, body upright, bill pointing to the water, until a lightning dive succeeds and is followed up by a picture of the bird flying off, a sprat in its bill, 'chirruk chirruking.'

On reaching a suitable perch the fish is battered about and finally swallowed head first, with a deft jerk into the air. The whole manoeuvre is most spectacular and quite unique.

Though shy of human beings, my distant release apparatus did not affect the birds in the least; in fact, on their first return to the nullah after the camera 'set-up' disturbance was over, one of the birds actually sat on the camouflaged basket covering the camera, while the other took to the perch that I had driven into the ground by the nesting hole.

After each exposure the necessary approach to the camera in order to re-set the shutter and turn on the film, disturbed the birds, but not more than ten minutes sufficed for their return with the possibility of a pair taking a seat on the focused perch.

The Kashmir Roller. *Coracias garrula semenowi.*

With the coming of Spring, the arrival of this gorgeous bird brightens up the landscape.

The Roller is solidly built and has a heavy bill. When seated it appears as an ordinary light blue bird, about the size of a pigeon. It is not until it swoops from its perch that brilliant broad bands of Oxford and Cambridge blue on its wings show up in a delightful transformation. The bird is fairly common in the Vale, and I have seen a stray pair or two on the edge of the pine forests up to 8,000 ft.

From some elevated perch it watches for shrew, frog or anything that moves on the ground. Its swoop down to capture the morsel, the return flight to the post to devour it, are all colourful manoeuvres. The abandon of the nuptial display so frequent at this time of year, during which the bird rolls and tumbles about the air uttering its harsh and raucous cries, attracts constant attention.

Even at a later period of the season when the love display has passed and one of the pair is brooding eggs, the other remains alert and always on guard. Intolerant of trespass near the nesting hole it will swoop down with harsh grating screams at the intruder. These colourful performances can be seen throughout the bird's stay in Kashmir.

As I will never dig out a nest, it is difficult to say how deep their burrows extend into the earth, but judging by the many nesting cavities laid open to view in these banks every Spring, by erosion, I fancy the birds do not tunnel for more than roughly 6 to 9 inches before evacuating the roomy nesting chambers. The eggs are glossy white and spherical and number four to six to a clutch.

These birds do not readily take to a perch near the nesting hole. It is not a question of fear but a preference to fly direct to the nest implying an inadequate exposure to the lens. As most of

the nests tackled by me have been at an average height of 20 ft. above the nullah bed, a frontal 'set-up' for a 'close-up' picture is difficult.

However, very often a suitable perch, used by the birds before their final plunge into the nesting hole, can be found in the area, and by the exercise of a little patience, the camera will catch a number of good poses.

The Central Asian Kingfisher. *Alcedo atthis pallasii*.

This little bird, a gem among birds, is the northern version of the Common Kingfisher. With its solid build, long bill and brilliant green blue and chestnut plumage it needs little description as it is the most familiar bird on the Lakes and waterways of Kashmir during the summer months. It literally foists itself on one from its penchant for perching in the open, a little above the surface of the water. The wires and posts used for anchoring houseboats are freely used. Here it will sit fearless of man and every now and again plunge obliquely into the water and return to the perch with a silvery fish in its bill. If unsuccessful in its attempt, it will fly swift and low over the water with a distinct, sharp roll of its little body, and utter a trilling note as it streaks away in search of a further suitable vantage-point.

The normally accommodating gullet, stretched to its utmost by the outsize in fish presented, calls for a supreme effort on the part of the bird. A great struggle takes place, for with eyes closed, a frequent up and down movement of the head and its fanned tail flicking, the bird struggles to swallow its capture; but is little disturbed by the experience, for almost immediately the next minnow within reach pays for its carelessness.

Over open water it may be frequently seen hovering with body erect, bill pointing downwards, preparatory to plunging in after its prey.

The breeding season is very extended, the main months are April to June, but young fledglings have been seen as late as September.

The nesting tunnel excavated by the birds runs level for about three feet before the actual egg chamber is reached, where the six white eggs almost spherical in shape lie. A Kashmir village is a rose garden when compared with the stench and squalor connected with the abode and upbringing of such beautiful jewels of nature. A great number of these nests must be swamped out annually, either by heavy rain storms, or snows melting which cause a rise about a foot or so above the normal level gauged as sufficient by the birds when digging out their nests.

Having no fear of man and with a succession of favoured fishing posts for perches photography is easy. The first snapshot may portray a look of enquiry towards the camera, quickly followed by another showing the bird with bill lowered following in rapt attention movement in the water below and ready for a plunge into it, and then yet a third to complete the sequence, showing the return to the perch with a small fish held firmly in its bill. This sequence was actually taken by me from one of the living rooms in my houseboat.



The European Bee-Eater.



The Rufous-backed Shrike.



The Common Sandpiper.

The Rufous-backed Shrike. *Lanius schach erythronotus.*

This Shrike is 10 inches in length, its grey head, the broad broad black band running backwards across the forehead through the eyes, the long graduated tail and severely notched bill are features common to several members of this well marked family. In this species the rich rufous lower back and rump, and the rufous-tinged abdomen are distinctive.

This Shrike is one of the most common visitors to Kashmir in summer, arriving in early April and remaining till late in September. Its abundance may be gauged by the numbers inhabiting the popular avenues bordering most highways in the Vale and by the surplus living in the willow groves and frequenting gardens. The habit of sitting bolt upright on some bare twig with long tail swaying gently up and down, the constant lookout kept to help pacify an insatiable appetite, the sudden dash down to the ground to stab at its insect prey, the laboured flight return to the original perch, make these birds conspicuous.

I have never actually found the larder of this particular species, but they are bold robbers and to them eggs are a great delicacy. A friend of mine had the aggravating experience of seeing a Shrike pounce at, and destroy the eggs in the nest of a Paradise Flycatcher while he who busy setting up a 'hide' in preparation to photograph the owner.

The flight, though laboured at the start, is swift and straight propelled by extra rapid beats from wings that appear inadequate to carry the slender body and long tail. The call notes are a harsh and loud chattering but during the early spring and the incubation periods, the cock bird has a soft and musical song, well sustained, and with a variety of notes, but so subdued as to amount to mere mumbblings. An irregular flirting of the wings always accompanies these efforts at song.

The nest is a massive, deep, untidy cup of assorted materials usually comfortably lined. The eggs, commonly five to a clutch, are a white or creamy ground colour sparsely spotted and blotched with shades of brown except for the distinct wreath formed round the broad end.

One nest found contained eight eggs, and from observations, these were brooded by the one pair of birds. There is every indication that at least two broods are raised during the breeding season. The bird is victimised by the Cuckoo. The nest, usually tucked away snugly at the junction of two stout branches, the bird's rapid succession of hops to it, immediately after alighting on the tree, and its quick disappearance into the deep nest cavity are the chief obstacles to successful snapshots.

The Spotted Forktail. *Enicurus maculatus.*

It was while motoring between Chenari and Hri on the Jhelum Valley Road, along the wide stretch of it which is carved out of the mass of frowning, damp, moss-covered rock deeply fissured at intervals by miniature waterfalls, that I met my first Forktails.

The loud uncanny screams from the surprised bird as it plunged across the road just ahead of the bonnet of the car were quite